

Mathematics Challenge

GRADE 4 FIRST ROUND
10 OCTOBER 2001

NOTE:

- Answer the questions according to the instructions on the answer sheet.
- You may use a calculator.
- The questions test insight. Complex calculations are therefore unnecessary and time consuming.
- We hope you enjoy it!

1. The big bin holds 315ℓ of liquid and the small bin holds 9ℓ . Which calculation can be used to determine how many small bins of liquid are needed to fill the big one?

(A) 315×9

(B) $315 \div 9$

(C) $315 + 9$

(D) $315 - 9$

None of these
(E) Nie een hiervan nie
Awukho kule



In cooperation with the
**Western Cape
Education Department**

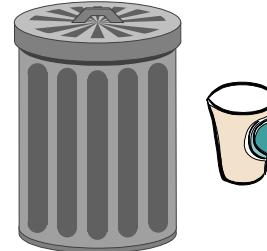
Wiskunde-uitdaging

GRAAD 4 EERSTE RONDE
10 OKTOBER 2001

LET OP:

- Beantwoord die vrae volgens die instruksies op die antwoordblad.
- Jy mag 'n sakrekenaar gebruik.
- Die vrae toets insig. Omslagtige berekening is dus onnodig en tydwend.
- Ons hoop jy geniet dit!

1. Die groot drom hou 315ℓ vloeistof en die klein drommetjie hou 9ℓ . Watter berekening kan gebruik word om te bepaal hoeveel klein drommetjies vloeistof nodig is om die grote te vul?



Umceli-mngeni Ngezibalo

GRADE 4 UMJIKELO WOKUQALA
10 OKTHOBHA 2001

QAPHELA:

- Phendula imibuzo ngokwemigaqo ekwiphepha olinikiweyo.
- Ungayisebenzisa I-Calculator.
- Imibuzo ivavanya ukuqonda kwakho. Izibalo ezide, ezixhakaxhaka aziyomfuneko.
- Siyathemba uyakulonwabela!

1. Umgqomo omkhulu wenkunkuma obumanzirha, uthwala iilitha eziyi 315. Omncinci uthwala eziyi 9. Loluphi uhlobo lokubala esinokuthi silisebenzise ukufumana ukuba mingaphi emincinci imiggomo efunekayo ukugcwala lo umkhulu?

CASIO



RUMEUS
Research Unit for Mathematics Education
of the University of Stellenbosch

2. What number in the place of ∇ will make the following sentence true?

$$8 - 3 = \nabla - 8$$

(A) 3

(B) 5

(C) 11

(D) 12

(E) 13

3. $0 + 37 + 37 + \dots + 37 = 629$

How many 37s must be added to 0 to get 629?

(A) 13

(B) 15

(C) 17

(D) 19

(E) 23

4. Which of the following is a good indication of how many millilitres there are in a full can of Coke?



(A) 25

(B) 80

(C) 340

(D) 750

(E) 1250

5. A greengrocer charges 75c for a bunch of carrots, but at the market they cost R2 for 3 bunches. Your mother needs 6 bunches of carrots. How much would she save if she bought them at the market?

(A) 25c

(B) 48c

(C) 50c

(D) 60c

(E) 75c

6. Mary has to be at school by 08:00. It takes her 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to school. What is the latest that she should get up?

(A) 07:00

(B) 06:50

(C) 07:10

(D) 07:50

(E) 07:25

2. Watter getal in die plek van ∇ sal die volgende sin waar maak?

$$8 - 3 = \nabla - 8$$

2. Leliphi inani elinokubekwa endaweni ka ∇ elinokuthi lenze esi sivakalisi samananzi sibe yinyani?

$$8 - 3 = \nabla - 8$$

3. $0 + 37 + 37 + \dots + 37 = 629$

U-37 adityaniswe amathuba angakanani ku-0 ukuze enze u-629?

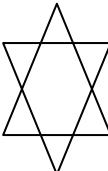
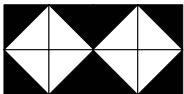
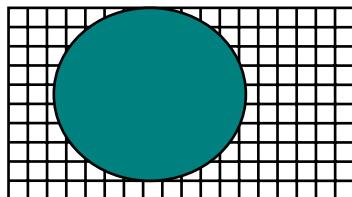
4. Yeyiphi kwezi zilandelayo ebonisa kakuhle ukuba zingaphi na i-millilitres kwitoti ezeleyo ye Coke?

5. Ivenkile yemifuno ibiza 75c ngexesha leminqathe kodwa emarikeni kuthengiswa izixa ezi 3 nge R2 Umama wakho ufuna izixa ez 6 ukulungiselela itheko. Yimalini enokumbuyela ngokuthenga iminqathe emarikeni anganokuyithenga kwivenkile yemifuno?



6. U Mary kufuneka esesikolweni ngentsimbi yesi 08:00. Kuthi kumthathe I 15 lemizuzu ukunxiba, kuphinde kumthathe ama 20 emizuzu ukutya kuze kumthathe ama 35 emizuzu ukuhamba ngenyawo esiya esikolweni. Kuxa evuke mva kanganani apho anokufika ngexesha esikolweni?

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| <p>7. On which date is the hundredth day of the year 2001?</p> <p>(A) 10 Mei
10 May</p> | <p>7. Op watter datum is die honderdste dag van die jaar 2001?</p> <p>(C) 30 April
30 April</p> | <p>7. Ngowuphi umhla ozakuba lusuku lwe 100 kunyaka wama 2001?</p> <p>(E) Nie een van hierdie Awukho kule</p> |
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| <p>8. A carpet is thrown over a tile floor as shown below. How many tiles were used to tile the floor?</p> <p>(A) 28</p> | <p>8. 'n Mat word oor 'n teël vloer gegooi soos hieronder getoon. Hoeveel teëls is gebruik om die vloer te teël?</p> <p>(C) 90</p> | <p>8. I methi iphoswe phezu komgangatho we tayile njengokuba kuboniswe ngezantsi. Zingaphi ii tayile ezasetyenziswa okugquma lomgangatho?</p> <p>(E) One cannot say
Jy kan nie sê nie
Ubani akanakho ukuchaza</p> |
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| <p>9. What fraction of the whole figure is shaded?</p> <p>(A) $\frac{1}{2}$</p> | <p>9. Watter breuk van die hele figuur hieronder is ingekleur?</p> <p>(C) $\frac{7}{16}$</p> | <p>9. Liqhezu elingakanani lalo mzobo elithe lenziwe mnyama?</p> <p>(D) $\frac{9}{16}$</p> |
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| <p>10. Altogether, how many triangles are there in the figure below?</p> <p>(A) 10</p> | <p>10. Hoeveel driehoekte is daar altesaam in die figuur hieronder?</p> <p>(C) 6</p> | <p>10. Bebonke bangaphi oonxantathu abakulo mzobo ungezantsi?</p> <p>(D) 4</p> |
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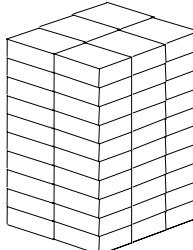


11. How many blocks did Peter use to build this shape?

(A) 36

(B) 60

11. Hoeveel blokkies het Peter gebruik om hierdie vorm te bou?



(C) 30

(D) 40

11. Zingaphi iibhokisi ezisetyenziswe ngu-Peter ukwakha esi sakhiwo?

- (E) Nie een hiervan nie
Ayikho kwezi

12. It is 75 km from town A to town B. There is a farm produce stall between A and B, 15 km from A. How far is it from the farm produce stall to B?

(A) 90 km

(B) 60 km

12. Van dorp A na dorp B is 75 km. Tussen A en B, 15 km vanaf A, is 'n plaasstal. Hoe ver is dit van die plaasstal na B?

(C) 75 km

(D) 37,5 km

12. Umgama phakathi kwedolophu u-A no B ungama 75 km. Phakathi ko A no B kukho ivenkilana yemveliso zasefama ekumgama oli 15 km ukusuka ku A. Kukude kangakanani ukusuka kule venkilana ukuya ku B?

(E) 45 km

13. You and 10 other people get into a lift on the ground floor. On the first floor 3 people get off and 1 gets in. On the second floor 5 people get off and 3 get in. On the third floor 6 people get off. How many people are in the lift now?

(A) 0

(B) 1

13. Jy en 10 ander persone klim op die grondvloer in 'n hysbak. Op die eerste vloer klim 3 mense uit en 1 klim in. Op die tweede vloer klim 5 mense uit en 3 klim in. Op die derde vloer klim 6 mense uit. Hoeveel mense is nou in die hysbak?

(C) 2

(D) 3

13. Wena nabanye abantu abali 10 niye nakhwela I lifti kumgangatho osemhlaben. Kumgangatho wokuqala kuye kwehla abantu aba 3 kwangena omnye. Kumgangatho wsibini kuye kwehla abantu aba 5 kwaze kwangena aba 3. Kumgangatho wesithathu kuye kwehla abantu aba 6. Bangaphi abantu abaseleyo ngoku?

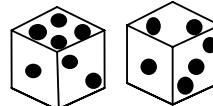
- (E) Nie een hiervan nie
Ayikho kwezi

14. If you roll two dice and add the two scores, how many different answers are possible?

(A) 10

(B) 11

14. As jy twee dobbelsteentjies rol en jy tel die twee getalle op, hoeveel verskillende antwoorde is moontlik?



(C) 12

(D) 13

14. Ukuba udovola amadayisi uze izikoro zozibini uzidibanise zingangaphi iziphumo zokokudibanisa kwakho onokuzifumana?

(E) 36

15. Three boys' heights are 1,630 m; 1,750 m and 1,820 m. How much is the tallest boy taller than the shortest boy?

(A) 0,066 m

(B) 0,124 m

16. On this dart board you can score 3; 5 or 7 with each dart. A boy hits the board with three darts. Which of the following total scores is impossible to obtain?

(A) 9

(B) 11

(C) 12

(D) 0,19 m

(E) 1,9 m

15. Drie seuns se lengtes is 1,630 m; 1,750 m en 1,820 m. Hoeveel is die langste seun langer as die kortste seun?

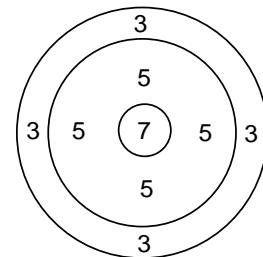
(C) 1,19 m

(D) 0,19 m

15. Ubude bamakhwenkwe amathathu bobu 1,630 m; 1,750 m, kunye no-1,820 m. Omde kubo bonke mde kangakanani koyena umfutshane?

(E) 1,9 m

16. Op hierdie veerpyltjie-teiken kan jy tellings van 3; 5 of 7 met elke pyletjie behaal. 'n Seun tref die teiken met 3 pyltjies. Watter van hierdie totale tellings is onmoontlik?



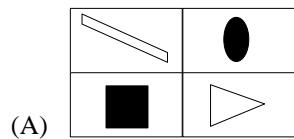
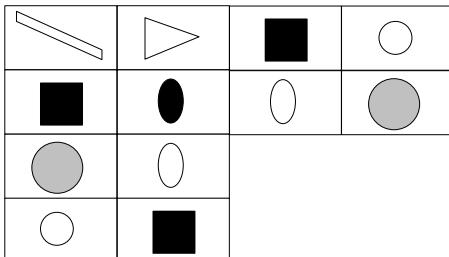
(D) 13

(E) 15

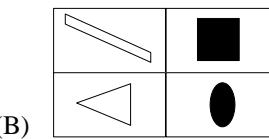
17. Which diagram fits in the empty space to complete the pattern?

17. Watter diagram pas in die oop spasie om die patroon te voltooi?

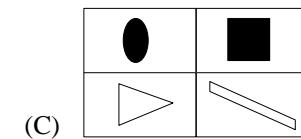
17. Ngowuphi kule mifanekiso ongena gingci kwesi sithuba sikhoyo?



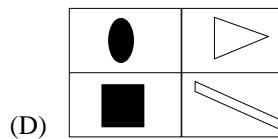
(A)



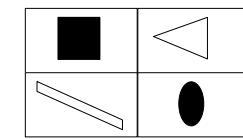
(B)



(C)



(D)



(E)

18. Which one of the following fractions is the closest to 0?

(A) $\frac{1}{8}$

(B) $\frac{1}{7}$

(C) $\frac{1}{2}$

(D) $\frac{1}{10}$

(E) $\frac{1}{4}$

19. Delshe has 24 marbles more than Bingo and Therine has 24 less than Bingo. If Bingo has 71 marbles, how many do they have all together?

(A) 211

(B) 213

(C) 215

(D) 217

(E) 219

20. I have the following coins in my pocket: one 50c coin, one 20c coin, one 10c coin and one 2c coin. Which of the following amounts can I *not* give someone without making change?

(A) 80c

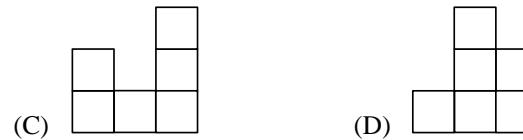
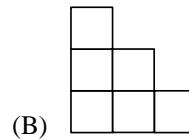
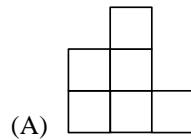
(B) 32c

(C) 62c

(D) 52c

(E) 42c

21. The sketch shows a building as seen from the front right corner. Which diagram shows the building as seen from the left side?



18. Watter een van die volgende breuke is die naaste aan 0?

(C) $\frac{1}{2}$

(D) $\frac{1}{10}$

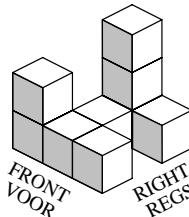
(E) $\frac{1}{4}$

19. Delshe het 24 albasters meer as Bingo en Therine het 24 minder as Bingo. As Bingo 71 albasters het, hoeveel het hulle altesaam?

19. Udelshe unamabhasstile angama-24 ngaphezu kunaka Bingo yena uTherine unama-24 ngaphantsi kunaka Bingo. Ukuba uBingo unama-71 amabhasatile, mangaphi ewonke amabhasatile abanawo?

20. Ndinezinkozo zemali epokothweni yam: ukhozo olunye lwama 50c, ukhozo olunye lwama 20c, ukhozo olunye lwesi 10c kunye nokhozo olunye lwesi 2c. Kwezi mali zidweliswe ngezantsi yeyiphi endinokuphisa ngayo kungabikho ntsalela?

20. Ek het die volgende munstukke in my sak: een 50c-stuk, een 20c-stuk, een 10c-stuk en een 2c-stuk. Watter een van die volgende bedrae kan ek *nie* aan iemand gee sonder om eers kleingeld te kry nie?



21. Lo mfanekiso ubonisa isakhiwo xa sijongwe kwikona engaphambili kwicala lasekunene. Ngowuphi umzobo obonisa isakhiwo xs sijongwe kwicala lasekhohlo?

22. Thabo and Peter buy a case of cooldrinks containing 12 bottles and pay R30 for it. Thabo takes 4 bottles and Peter takes the other 8. How much must Thabo pay for his share?
22. Thabo en Peter koop 'n kis koeldrank wat 12 bottels bevat en betaal R30 daarvoor. Thabo neem 4 bottels en Peter neem die ander 8. Hoeveel moet Thabo vir sy aandeel betaal?
22. U-Thabo no-Peter bathenge ikasi yesiselo esibandayo enebhotile eziyi-12 baza babhatala I-R30. U-Thabo ufumana ibhotile ezi 4 aze u-Peter afumane ezi 8 eziseleyo. Ingaba u-Thabo ubhatele malini ngesakhe isabelo?

(A) R12,00

(B) R9,00

(C) R15,00

(D) R8,00

(E) R10,00

23. The science class did an experiment on how fast a certain type of candle burns. They recorded their measurements in the following table. How high will the candle be after 7 hours?



Time in hours	0	1	2	3	4
Height in cm	32	28	24	20	16

(A) 0 cm

(B) 4 cm

(C) 8 cm

(D) 12 cm

(E) Not one of these
Nie een van hierdie
Abukho kwezi

24. Every week Thembo saves R1,50 of his pocket money, while Sipho is able to save $1\frac{1}{2}$ times that amount. How much more would Sipho have saved than Thembo after 12 weeks?

(A) R9

(B) R18

(C) R27

(D) R16

(E) R10

25. Mother needs $1\frac{1}{2}$ apples to make one apple tart. How many apple tarts can she make with 15 apples?

(A) 8

(B) 10

(C) 12

(D) 22

(E) $22\frac{1}{2}$

24. Thembo spaar elke week R1,50 van sy sakgeld, terwyl Sipho $1\frac{1}{2}$ keer soveel spaar. Hoeveel meer sal Sipho as Thembo gespaar hê na 12 weke?

24. Ngazo zonke iiveki uThembu ugcina i R1,50 kwimali yakhe abe Tsifo enokuyiphindaphinda ka $1\frac{1}{2}$ le mali. UTsifo angamogqitha ngamalini emva kweeveki eziyi 12?

25. Moeder het $1\frac{1}{2}$ appels nodig om 'n appeltarte te maak. Hoeveel appeltarte kan sy met 15 appels maak?

25. Ukwenza iqebengwana le apile uMama kufuneka abe ne $1\frac{1}{2}$ yama apile. Angenza amaqebengwana abe mangaphi xa enama apile ali 15?